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Spartanburg, SC 29304

EXAMINER

GOFF II, JOHN L

ART UNIT PAPER NUMBER

1733

DATE MAILED: 12/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/015,205

Applicant(s)

STREETON ET AL.

Examiner

John L. Goff

Art Unit

1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 December 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 15-30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) - .
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-14, drawn to a process of making a dust control mat, classified in class 156, subclass 324.
 - II. Claims 15-30, drawn to a dust control mat, classified in class 428, subclass 95.

The inventions are distinct, each from the other because of the following reasons:
2. Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed can be made by a materially different process such as one where the product is cut to size before vulcanization.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.
5. During a telephone conversation with Charlotte Wilson on August 14, 2003 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-14. Affirmation

of this election must be made by applicant in replying to this Office action. Claims 15-30 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

6. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 112

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 1-14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 1 requires subjecting the textile component and unvulcanized rubber layer to a series of temperature and pressure zones in which "a first zone has a first temperature and a first pressure, a second zone has the first temperature and a second pressure, and a third zone has a second temperature and the second pressure". It is unclear where in the specification the temperature and pressure zones are described as having a pressure increase before a temperature

increase as the specification only discloses an applied pressure in one zone, the third (or vulcanization or last) zone. Alternatively, the specification appears to require the textile component and unvulcanized layer to be subjected to the following temperature and pressure zones - - a first zone has a first temperature and a first pressure, a second zone has a second temperature and the first pressure, and a third zone has a third temperature and a second pressure - - (See Page 5, lines 4-15). This is the interpretation to the claim given by the examiner. It is suggest applicant amend claims 1 and 11-13 as suggested above to overcome this rejection. Additionally, it is noted in claim 1 the third temperature has been interpreted as the temperature associated with vulcanization, and claims 12 and 13 have been interpreted to limit the third (not second) temperature.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 1, 2, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art (Figure 1 and Page 1, lines 22-25 and Page 2, line 1-2 and Page 3, line 1-20) in view of either one of Kita et al. (JP 07060758 and the English abstract) or Ogawa (JP 57053338 and the English abstract).

The admitted prior art disclose a process for making a dust control mat comprising positioning a textile component (6) over a layer of unvulcanized rubber (8) and subjecting the textile component and unvulcanized rubber layer to a series of temperature and pressure zones to create a mat composite, in which a first zone (50) has a first temperature (including less than the vulcanization temperature) and a first pressure (atmospheric), a second zone (58) has a second temperature (including less than the vulcanization temperature) and the first pressure, and a third zone (60) has a third temperature (vulcanization) and a second pressure (vulcanization) (Figure 1 and Page 1, lines 22-25 and Page 2, line 1-2 and Page 3, line 1-20). It is noted the admitted prior art discloses a batch process. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the batch process taught by the admitted prior art to be continuous (i.e. the textile component and unvulcanized rubber layer supplied as continuous rolls and the composite mat is cut after vulcanization) as continuous vulcanization processes were well known in the art as shown for example by either one of Kita et al. or Ogawa as a means to increase efficiency and reduce the labor required to produce vulcanized products.

Kita et al. disclose a continuous apparatus/process for vulcanizing an unvulcanized rubber layer as a means to eliminate the labor required in a batch process (See abstract and

Figure 1). Ogawa disclose a continuous apparatus/process for vulcanizing an unvulcanized rubber layer (along with additional reinforcement layers such as nylon) as an improvement over a batch process such that the rubber layer is vulcanized automatically rather than manually (See abstract).

Regarding claims 9 and 10, the admitted prior art is silent as to the particular thickness of the rubber layer. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to experimentally determine the thickness of the rubber as a function of the type of mat produced, e.g. a mat with multiple rubber layers, a mat with one rubber layer, a mat with micro-valves, etc., as doing so would have required nothing more than ordinary skill and routine experimentation.

12. Claims 3-6 and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art and either one of Kita et al. or Ogawa as applied above in paragraph 11, and further in view of Kerr (U.S. Patent 5,902,662).

Regarding claims 3-6, the admitted prior art, Kita et al., and Ogawa as applied above teach all of the limitations in the claims except for a specific teaching of the materials comprising the textile component and the rubber layer. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use as the textile component and the rubber layer taught by the admitted prior art as modified by either one of Kita et al. or Ogawa materials such as nylon, polyester, cotton, etc. for the textile component and acrylonitrile-butadiene rubber (NBR), styrene-butadiene rubber (SBR), etc. for the rubber layer as these materials were well known and conventional in the art for forming composite mats as shown for example by Kerr

and the admitted prior art as modified by either one of Kita et al. or Ogawa are not limited to any particular materials such that only the expected results would be achieved.

Kerr discloses a composite mat comprising a textile layer formed of materials such as nylon, polyester, and cotton and a rubber layer formed of materials such as NBR or SBR (Column 3, lines 42-47 and Column 4, lines 6-11).

Regarding claims 11-13, the admitted prior art, Kita et al., and Ogawa as applied above teach all of the limitations in the claims except for a specific teaching of the exact temperatures and pressures in each zone. However, it is noted the temperature of zone 1 (atmospheric pressure) is less than the temperature of zone 2 (atmospheric pressure) which is lower than the temperature of zone 3 (vulcanization pressure). It would have been obvious to one of ordinary skill in the art at the time the invention was made to experimentally determine the exact temperatures and pressures in each zone as a function of the type of materials used, length of the conveyor, vulcanization time, etc. as doing so would have required nothing more than ordinary skill and routine experimentation. Furthermore, it is noted the use of temperatures and pressures in the claimed range for vulcanizing a composite mat are known in the art as shown for example by Kerr such that the use of these temperature and pressures to vulcanize a composite mat would have been well within the ordinary skill of one in the art.

Kerr discloses vulcanizing temperatures and pressures of about 300 to about 340 °F and 20-40 psi (Column 4, lines 20-24).

13. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art and either one of Kita et al. or Ogawa as applied above in paragraph 11, and further in view of Burke et al. (U.S. Patent 5,834,086).

The admitted prior art, Kita et al., and Ogawa as applied above teach all of the limitations in claim 7 except for a specific teaching of using multiple layers of rubber. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use as the rubber layer taught by the admitted prior art as modified by either one of Kita et al. or Ogawa multiple layers of rubber as it was well known in the art to form composite mats with multiple layers of rubber to provide the mat with reinforcement areas as shown for example by Burke et al.

Burke et al. disclose a process for making a composite mat wherein the mat comprises a textile component, a rubber backing, and additional rubber layers (for reinforcement) on the edges of the backing (Figure 6 and Column 1, lines 34-39 and Column 3, lines 47-51 and Column 4, lines 30-34 and Column 5, lines 27-29).

14. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art and either one of Kita et al. or Ogawa and Burke et al. as applied above in paragraph 13, and further in view of Kerr.

The admitted prior art, Kita et al., Ogawa, and Burke et al. as applied above teach all of the limitations in claim 8 except for a specific teaching of the rubber layer comprising foam rubber. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use as the rubber layer taught by the admitted prior art as modified by either one of Kita et al. or Ogawa and Burke et al. foam rubber for the rubber layer it was well known and conventional in the art to form composite mats with a foam rubber layer as shown for example by Kerr and the admitted prior art as modified by either one of Kita et al. or Ogawa and Burke et al. are not limited to any particular rubber layer materials such that only the expected results would be achieved.

Kerr discloses a composite mat comprising a rubber layer formed of foam rubber (Column 6, lines 49-52).

15. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art and either one of Kita et al. or Ogawa as applied above in paragraph 11, and further in view of Nichols et al. (U.S. Patent 4,653,366).

The admitted prior art, Kita et al., and Ogawa as applied above teach all of the limitations in claim 14 except for a specific teaching on providing the surface of the rubber layer with micro-valves. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the mat composite taught by the admitted prior art as modified by either one of Kita et al. or Ogawa with micro-valves (e.g. by using a spiked roll) so that the mat can easily be de-watered during cleaning as was well known in the art as shown for example by Nichols et al.

Nichols et al. disclose a process for providing the rubber layer of a composite mat with micro-valves such that during cleaning the mat can be de-watered or dried without the application of heat thereto. Nichols et al. teach carrying the composite mat over a spiked roll to provide the micro-valves in the rubber layer (Figure 1 and Column 2, lines 25-33 and 52-56).

16. Claims 1-3, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kerr et al. (U.S. Patent 4,902,465) in view of either one of Kita et al. (JP 07060758 and the English abstract) or Ogawa (JP 57053338 and the English abstract).

Kerr et al. disclose a process for making a dust control mat comprising positioning a textile component (14 and 16) over a layer of unvulcanized rubber (20) and subjecting the textile component and unvulcanized rubber layer to a series of temperature and pressure zones to create

a mat composite, in which a first zone (the conveyor prior to 30) has a first temperature (including less than the vulcanization temperature) and a first pressure (atmospheric), a second zone (30) has a second temperature (including less than the vulcanization temperature) and the first pressure, and a third zone (32) has a third temperature (vulcanization) and a second pressure (vulcanization) (Figure 1 and Column 1, lines 43-58 and Column 2, lines 8-32). It is noted Kerr et al. disclose a batch process. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the batch process taught by Kerr et al. to be continuous (i.e. the textile component and unvulcanized rubber layer supplied as continuous rolls and the composite mat is cut after vulcanization) as continuous vulcanization processes were well known in the art as shown for example by either one of Kita et al. or Ogawa as a means to increase efficiency and reduce the labor required to produce vulcanized products.

Kita et al. disclose a continuous apparatus/process for vulcanizing an unvulcanized rubber layer as a means to eliminate the labor required in a batch process (See abstract and Figure 1). Ogawa disclose a continuous apparatus/process for vulcanizing an unvulcanized rubber layer (along with additional reinforcement layers such as nylon) as an improvement over a batch process such that the rubber layer is vulcanized automatically rather than manually (See abstract).

Regarding claim 3, Kerr et al. teach the textile component may be formed of cotton, polyester, etc.

Regarding claims 9 and 10, it would have been obvious to one of ordinary skill in the art at the time the invention was made to experimentally determine the thickness of the rubber as a function of the type of mat produced, e.g. a mat with multiple rubber layers, a mat with one

rubber layer, a mat with micro-valves, etc., as doing so would have required nothing more than ordinary skill and routine experimentation.

17. Claims 4-6 and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kerr et al. and either one of Kita et al. or Ogawa as applied above in paragraph 16, and further in view of Kerr (U.S. Patent 5,902,662).

Regarding claims 4-6, Kerr et al., Kita et al., and Ogawa as applied above teach all of the limitations in the claims except for a specific teaching of the materials comprising the textile component (e.g. nylon) and the rubber layer. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use as the textile component and the rubber layer taught by the Kerr et al. as modified by either one of Kita et al. or Ogawa materials such as nylon for the textile component and acrylonitrile-butadiene rubber (NBR), styrene-butadiene rubber (SBR), etc. for the rubber layer as these materials were well known and conventional in the art for forming composite mats as shown for example by Kerr and Kerr et al. as modified by either one of Kita et al. or Ogawa are not limited to any particular materials such that only the expected results would be achieved.

Kerr discloses a composite mat comprising a textile layer formed of materials such as nylon, polyester, and cotton and a rubber layer formed of materials such as NBR or SBR (Column 3, lines 42-47 and Column 4, lines 6-11).

Regarding claims 11-13, Kerr et al., Kita et al., and Ogawa as applied above teach all of the limitations in the claims except for a specific teaching of the exact temperatures and pressures in each zone. However, it is noted the temperature of zone 1 (atmospheric pressure) is less than the temperature of zone 2 (e.g. 240-260 °F and atmospheric pressure) which is lower

than the temperature of zone 3 (e.g. 320-340 °F and vulcanization pressure). It would have been obvious to one of ordinary skill in the art at the time the invention was made to experimentally determine the exact temperatures and pressures in each zone as a function of the type of materials used, length of the conveyor, vulcanization time, etc. as doing so would have required nothing more than ordinary skill and routine experimentation. Furthermore, it is noted the use of temperatures and pressures in the claimed range for vulcanizing a composite mat are known in the art as shown for example by Kerr such that the use of these temperature and pressures to vulcanize a composite mat would have been well within the ordinary skill of one in the art.

Kerr discloses vulcanizing temperatures and pressures of about 300 to about 340 °F and 20-40 psi (Column 4, lines 20-24).

18. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kerr et al. and either one of Kita et al. or Ogawa as applied above in paragraph 16, and further in view of Burke et al. (U.S. Patent 5,834,086).

Kerr et al., Kita et al., and Ogawa as applied above teach all of the limitations in claim 7 except for a specific teaching of using multiple layers of rubber. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use as the rubber layer taught by Kerr et al. as modified by either one of Kita et al. or Ogawa multiple layers of rubber as it was well known in the art to form composite mats with multiple layers of rubber to provide the mat with reinforcement areas as shown for example by Burke et al.

Burke et al. disclose a process for making a composite mat wherein the mat comprises a textile component, a rubber backing, and additional rubber layers (for reinforcement) on the

edges of the backing (Figure 6 and Column 1, lines 34-39 and Column 3, lines 47-51 and Column 4, lines 30-34 and Column 5, lines 27-29).

19. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kerr et al. and either one of Kita et al. or Ogawa and Burke et al. as applied above in paragraph 18, and further in view of Kerr.

Kerr et al., Kita et al., Ogawa, and Burke et al. as applied above teach all of the limitations in claim 8 except for a specific teaching of the rubber layer comprising foam rubber. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use as the rubber layer taught by Kerr et al. as modified by either one of Kita et al. or Ogawa and Burke et al. foam rubber for the rubber layer it was well known and conventional in the art to form composite mats with a foam rubber layer as shown for example by Kerr and Kerr et al. as modified by either one of Kita et al. or Ogawa and Burke et al. are not limited to any particular rubber layer materials such that only the expected results would be achieved.

Kerr discloses a composite mat comprising a rubber layer formed of foam rubber (Column 6, lines 49-52).

20. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kerr et al. and either one of Kita et al. or Ogawa as applied above in paragraph 11, and further in view of Nichols et al. (U.S. Patent 4,653,366).

Kerr et al., Kita et al., and Ogawa as applied above teach all of the limitations in claim 14 except for a specific teaching on providing the surface of the rubber layer with micro-valves. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the mat composite taught Kerr et al. as modified by either one of Kita et al. or Ogawa

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with micro-valess (e.g. by using a spiked roll) so that the mat can easily be de-watered during cleaning as was well known in the art as shown for example by Nichols et al.

Nichols et al. disclose a process for providing the rubber layer of a composite mat with micro-valves such that during cleaning the mat can be de-watered or dried without the application of heat thereto. Nichols et al. teach carrying the composite mat over a spiked roll to provide the micro-valves in the rubber layer (Figure 1 and Column 2, lines 25-33 and 52-56).

Conclusion


21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **John L. Goff** whose telephone number is **703-305-7481** (after December 2003 the telephone number will be 571-272-1216). The examiner can normally be reached on M-Th (8 - 5) and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 703-308-3853. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



John L. Goff



JEFF H. AFTERGUT
PRIMARY EXAMINER
GROUP 1300